Met Office

NEWS

State of the Global Climate: 2017

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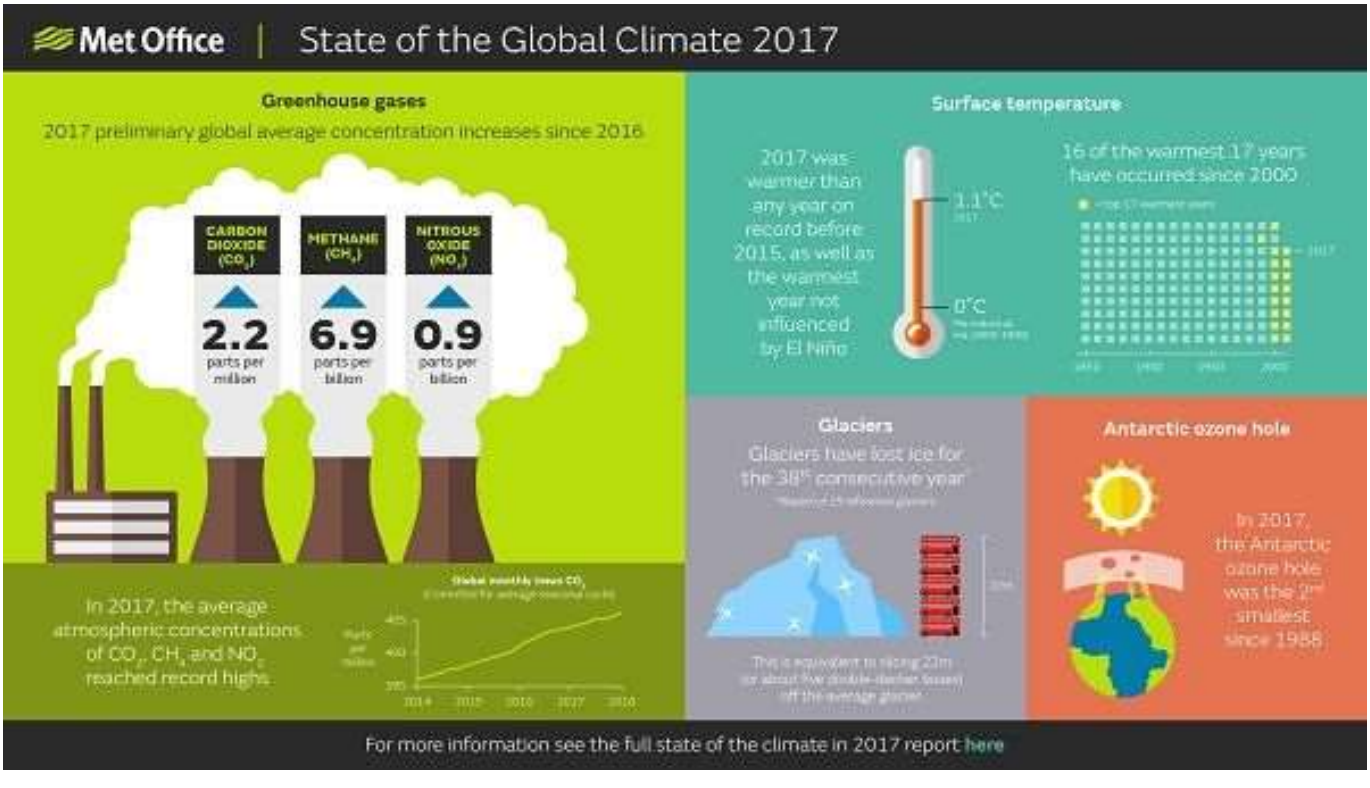
The annual state of the Climate report highlights 2017 as one of the top three warmest years on record.

An international analysis of the global climate of 2017 has been published in the annual report, 'State of the Climate in 2017' released yesterday by the American Meteorological Society.

The report highlights that 2017 is among the top three warmest years for global temperature since records began in 1850, following on from 2015 and 2016 as the other warmest years. Global surface temperatures were between 0.38 and 0.48 °C above the 1981-2010 average. This places 2017 as the warmest year on record in which El Niño did not play a role in amplifying global surface temperatures.

Dr Robert Dunn is a Senior Scientist at the Met Office Hadley Centre, and co-edited the global climate chapter of the report. He said: "Despite 2017's surface temperatures not breaking the absolute record, the fact that it is following the pattern of one warm year after another is concerning and we are seeing impacts of these warmer temperatures around the world".


Met Office | State of the Global Climate 2017
Greenhouse gases
2017 preliminary global average concentration increases since 2016
CARBON DIOXIDE (CO_2)
METHANE (CH_4)
NITROUS OXIDE (NO_2)
2.2 parts per million
6.9 parts per billion
0.9 parts per billion
In 2017, the average atmospheric concentrations of CO_2, CH_4 and NO_2 reached record highs
Surface temperature
2017 was warmer than any year on record before 2015, as well as the warmest year not influenced by El Niño
1.1°C
0°C
16 of the warmest 17 years have occurred since 2000
Glaciers
Glaciers have lost ice for the 38th consecutive year
Antarctic ozone hole
In 2017, the Antarctic ozone hole was the 2nd smallest since 1988
For more information see the full state of the climate in 2017 report here

Atmospheric greenhouse gases reached their highest levels in the instrumental record in 2017, with average CO_2 concentrations reaching a record high of 405ppm. Glaciers have lost ice for the 38th successive year and with sea surface temperatures close behind the record set in 2016, we are continuing to see severe damage to coral reefs, with one particularly destructive bleaching event lasting three years.

The report also describes some of the extreme weather events that occurred in 2017. Dr Dunn added, “Extreme weather events have always been a feature of our climate, and 2017 also experienced some notable events. In 2017 extreme rainfall in Venezuela triggered the most devastating floods in over a decade, whilst Hurricane Harvey set new rainfall records in Texas. In contrast, extreme drought affected at least 3% of global land area each month, a figure matched only in 1984, 1985, and 2016.”

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